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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/008,792

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Geoffrey Schmit

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4757

7590

11/19/2003

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EXAMINER

WACHSMAN, HAL D

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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8

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Commissioner for Patents

Hal D Wachsman
Primary Examiner
Art Unit: 2857

Office Action Summary

Application No.

10/008,792

Applicant(s)

SCHMIT ET AL.

Examiner

Hal D Wachsman

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-77 is/are pending in the application.
- 4a) Of the above claim(s) 6-25,31-55,60-67 and 69-77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,26-30,56-58 and 68 is/are rejected.
- 7) ☒ Claim(s) 5 and 59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5. 6) ☐ Other: _____

1. Applicant's election with traverse of species I (claims 2-5, 26-30, 57-59 and 68) in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the Examiner has not issued a proper restriction requirement. This is not found persuasive because the restriction made was a species restriction and the requirement for this type of restriction is that the claims to be restricted to different species must be **mutually exclusive (see MPEP 806.04(f))**. In a species restriction, the showing of a burdensome search is not a requirement of the Examiner. ~~As was indicated in the restriction requirement, the~~ patentably distinctness of the species is indeed illustrated in the claims as the cited species are mutually exclusive. To illustrate this, for example, if we take species VII (claim 24), this species cites the limitation "wherein said expert system is further operable to:select and invoke one or more of the plurality of experts to analyze the generated measurement task specification and populate one or more candidate run-time specifications". This limitation is not found for example in species IX (claim 39). Species IX (claim 39) cites the limitation "wherein said run-time specification comprises a specification of the parameters of one or more measurement primitives, wherein each measurement primitive comprises a software object and corresponding configuration settings, and wherein each measurement primitive is operable to implement at least a portion of the measurement task". This limitation is not found in species VII (claim 24). Thus, as shown above, species VII and IX, are patentably distinct species because they are mutually exclusive as illustrated in the claims.

The Applicant's election states that "Applicants note that a restriction should be

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required only when it is proper under all applicable types of restriction practice". The Examiner has reviewed Chapter 800 of the MPEP and could not find such a requirement being stated here and the Applicant did not indicate where in the MPEP such a requirement is stated. This also begs the question why a restriction that meets the requirement for a species type restriction would also have to meet the requirements for a combination and subcombination, process and apparatus for its practice, etc. type restrictions ? ~~The Examiner respectfully submits, that~~ clearly this is not the case and that if a species restriction is being made it is only the requirement for a proper species restriction that must be met and not for the various other types of restrictions.

The Applicant also argues that "In a general sense, Applicants note that the claims of Groups I-VII (under the generic claims 1 and 56) and the claims of Groups VIII-XI (under generic claim 32) have substantially the same limitations, and so Applicants respectfully submit that the division of the claim set according to these two species groups is not proper". Thus, it appears here that the Applicant is arguing that the species are not patentably distinct. However, the Examiner respectfully notes the following which was stated in paragraph 1 of the restriction requirement:

"Should applicant traverse on the ground that the species are not patentably distinct, applicant should **submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case.** In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention".

The election does not provide a clear admission on the record that all the species are obvious variants. In addition, stating "In a general sense,have substantially the same limitations.." or "includes substantially the same limitations" in several locations of the election, as worded in effect implies that the species are not exactly the same (i.e. there is a distinction). For example, on the first page of the remarks in the election the Applicant argues "Claim 39 (Group IX) has substantially the same limitations as claims 7, 8 and 62 (Group iii)" however claim 39 (species IX) lacks the expert system which is found in claims 7, 8 and 62 (see the base independent claims of these dependent claims). Thus, there is clearly a distinction here. The Applicant also argues that "... Group XII is not associated with any generic claim". However, species XII was not associated with any generic claim because there was no other claim deemed to be generic with respect to species XII.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 6-25, 31-55, 60-67 and 69-77 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.
3. The drawings have been approved by the Draftspersons.
4. The listing of references in the specification (see page 27 of the specification) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but

must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

5. The Brief Description of the Drawings refers to Figures 11-13 however the figures that actually exist in this range are Figures 11, 12A, 12B, 12C, 12D and 13 (i.e. the reference to figures 11-13 does not show the lettered figure numbers in between figures 11 and 13). Appropriate correction is required.

6. ~~The use of the trademarks LabVIEW, LabVIEW Express and E - Series~~ have been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

7. Page 105, line 4, refers to "Figures 40A – 13A" however was it actually figures 40A-43A that was actually intended here ? Appropriate correction is required.

8. Claims 1-5, 26-30, 56-59 and 68 are objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The preamble of claim 1 cites "A memory medium comprising program instructions for creating a measurement run-time.." however as the program instructions are not being executed, such as on a general purpose computer, it is not clear how the functionality of the memory medium with program instructions is being realized. Claim 2, line 4, cites "one or more measurement devices" however is this the same one or more measurement devices previously cited in claim 1 ? Claim 2, line 6,

cites "generate a run-time" however is this the same run-time previously referred to in claim 1 ? Claim 3, lines 3 and 4, cite "the selected run-time specification" which lacks clear antecedent basis. This same type of problem also occurs in claim 57, line 4. Claim 4, lines 4-5, cites "said analyzing" however there is the analyzing of claim 4 and the analyzing of claims 1 and 2, therefore clarification is needed with respect to exactly which analyzing is being referred to here ? This same type of problem also occurs in claim 58, lines 4-5. The preamble of claim 56 cites "A measurement system..." but a measurement system for what exactly is being referred to here ? Claim 59, line 7, cites "said run-time specification change list" however the antecedent basis is "one or more run-time specification change lists". Claim 68 cites "...further comprising: the one or more measurement devices..." however one or more measurement devices was already cited in claim 56. The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-4 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (5,812,394) in view of "Bridging the gap between specification and implementation" (Dietterich).

As per claim 1, Lewis et al. (Abstract, figures 2, 8, 13, 18a, col. 28 lines 31-46, col. 107 lines 57-67, col. 108 lines 22-51) disclose "a measurement task specifier, operable to generate a measurement task specification for a measurement task in response to user input". Lewis et al. (Abstract, figure 181, 22, 25a, 25b, col. 87 lines 20-23, 54-57, col. 88 lines 48-50) disclose a run-time specification that is useable to "configure one or more measurement devices according to the run-time specification". Lewis et al. (Abstract, figure 18a, 22, 25a, 25b, 70, col. 3 lines 20-31, col. 90 lines 55-62, col. 104 lines 43-53) disclose a run-time specification that is useable to "generate a run-time, wherein said run-time is executable to perform the measurement task". With respect to the feature "an expert system, operable to analyze the generated measurement task specification and generate a run-time specification for the

measurement task", Lewis et al. (Abstract, figure 18a, 22, 25a, 70, col. 12 lines 18-60, col. 87 lines 11-14, 52-57, col. 88 lines 11-44) disclose analyzing a generated measurement task specification and generating a run-time specification for a measurement task but does not clearly disclose the use of an expert system being used to accomplish this analyzing and generating. However, Dietterich (pages 80 and 81) teaches an expert system that can be used for this purpose. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Dietterich to the invention of Lewis et al. as specified above because as taught by Lewis et al. (col. 4 lines 41-44) some controllers support other conventional computer science oriented programming languages and methods including C, BASIC, **expert systems**, flow charting, and others and because as taught by Dietterich (page 82) some would argue that additional benefits could be gained from specifying an expert system using deep knowledge and then compiling it to produce a runtime system, even if the deep knowledge is harder to acquire from domain experts with the main benefit being that the final system is more likely to be complete and correct than is a system based on associational rules obtained directly from human experts.

As per claim 2, Lewis et al. (col. 88 lines 3-50) disclose the run-time builder. Lewis et al. (Abstract, figure 181, 22, 25a, 25b, col. 87 lines 20-23, 54-57, col. 88 lines 48-50) disclose "analyze the run-time specification" and "configure one or more measurement devices according to the run-time specification". Lewis et al. (Abstract, figure 18a, 22, 25a, 25b, 70, col. 3 lines 20-31, col. 90 lines 55-62, col. 104 lines 43-53)

disclose "generate a run-time, wherein said run-time is executable to perform the measurement task".

As per claim 3, Lewis et al. (Abstract, figures 22, 25a, 70, col. 87 lines 20-26, 55-58, col. 92 lines 64-67) disclose the feature of this claim.

As per claim 4, Lewis et al. (figure 68, col. 92 lines 30-32) disclose "analyze changes made to the run-time specification". Lewis et al. (col. 87 lines 20-26, 52-58, col. 90 lines 15-24) disclose "change configuration of said one or more measurement devices....configuration changes correspond to said changes made to the run-time specification".

As per claim 27, Lewis et al. (figures 18a, 20, 30, 39, 42, 47, 51-53) disclose the feature of this claim.

As per claim 28, Lewis et al. (figures 2, 3, 5, 7, 13, 20) disclose the feature of this claim.

As per claim 29, Lewis et al. (figures 2, 3, 5, 7, 13, 20) disclose the feature of this claim.

11. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (5,812,394) in view of "Bridging the gap between specification and implementation" (Dietterich) as applied to claim 1 above, and further in view of Yen et al. (5,434,952).

As per claim 26, Yen et al. (Abstract, figures 2, 5, 7a, col. 5 lines 13-15, col. 8 lines 12-14) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Yen et al. to the invention of Lewis et al. and Dietterich as specified above

because as taught by Yen et al. (col. 1 lines 61-64) a need had arisen for a method and system for specifying an expert system to assist in systematic verification and validation of the expert system at intermediate stages of development.

12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (5,812,394) in view of "Bridging the gap between specification and implementation" (Dietterich) as applied to claim 1 above, and further in view of Umezu et al. (6,418,391).

As per claim 30, Umezu et al. (Abstract, col. 1 lines 24, 25, col. 10 lines 50-64) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Umezu et al. to the inventions of Lewis et al. and Dietterich as specified above because virtual instruments provide a more flexible means for interfacing instruments with a user through software executing on a computer simulating the operation of an instrument instead of a user having to manipulate individual controls for a variety of physical hardware instruments.

13. Claims 56-58 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (5,812,394) in view of "Bridging the gap between specification and implementation" (Dietterich) and Yen et al. (5,434,952).

As per claim 56, Lewis et al. (Abstract, figures 2, 8, 13, 18a, col. 28 lines 31-46, col. 107 lines 57-67, col. 108 lines 22-51) disclose the measurement task specifier as described in lines 2-3 of the claim. Lewis et al. (col. 88 lines 3-50) disclose the run-time builder. Lewis et al. (Abstract, figure 181, 22, 25a, 25b, col. 87 lines 20-23, 54-57, col. 88 lines 48-50) disclose "analyze the run-time specification" and "configure

one or more measurement devices according to the run-time specification". Lewis et al. (Abstract, figure 18a, 22, 25a, 25b, 70, col. 3 lines 20-31, col. 90 lines 55-62, col. 104 lines 43-53) disclose "generate a run-time, wherein said run-time is executable to perform the measurement task". With respect to the expert system as described in lines 4-7 of the claim, Lewis et al. (Abstract, figure 18a, 22, 25a, 70, col. 12 lines 18-60, col. 87 lines 11-14, 52-57, col. 88 lines 11-44) disclose analyzing a generated measurement task specification and generating a run-time specification for a measurement task but does not clearly disclose the use of an expert system being used to accomplish this analyzing and generating and does not clearly disclose the validation of the generated specification. However, Dietterich (pages 80 and 81) teaches an expert system that can be used to accomplish the analyzing and generating as described respectively in lines 5 and 7 of the claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Dietterich to the invention of Lewis et al. as specified above because as taught by Lewis et al. (col. 4 lines 41-44) some controllers support other conventional computer science oriented programming languages and methods including C, BASIC, **expert systems**, flow charting, and others and because as taught by Dietterich (page 82) some would argue that additional benefits could be gained from specifying an expert system using deep knowledge and then compiling it to produce a runtime system, even if the deep knowledge is harder to acquire from domain experts with the main benefit being that the final system is more likely to be complete and correct than is a system based on associational rules obtained directly from human experts. It appears that the above combination of references still

does not clearly disclose the validation as described in line 6 of the claim. However, Yen et al. (Abstract, figures 2, 5, 7a, col. 5 lines 13-15, col. 8 lines 12-14) teach this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Yen et al. to the invention of Lewis et al. and Dietterich as specified above because as taught by Yen et al. (col. 1 lines 61-64) a need had arisen for a method and system for specifying an expert system to assist in systematic verification and validation of the expert system at intermediate stages of development.

As per claim 57, Lewis et al. (Abstract, figures 22, 25a, 70, col. 87 lines 20-26, 55-58, col. 92 lines 64-67) disclose the feature of this claim.

As per claim 58, Lewis et al. (figure 68, col. 92 lines 30-32) disclose "analyze changes made to the run-time specification". Lewis et al. (col. 87 lines 20-26, 52-58, col. 90 lines 15-24) disclose "change configuration of said one or more measurement devices....configuration changes correspond to said changes made to the run-time specification".

As per claim 68, Lewis et al. (figures 18a, 20, 30, 39, 42, 47, 51-53) disclose the feature of this claim.

14. Claims 5 and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and subject to the appropriate correction of the 37 C.F.R. 1.75(a) objections noted in paragraph 8 above.

Claims 5 and 59 would be allowable if rewritten as described above because the

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prior art does not disclose or suggest: an expert system that can analyze incremental changes made to measurement task specification; populate one or more run-time specification change lists with measurement primitive settings with a run-time builder that can modify the run-time based on one or more run-time specification change lists.

15. The following references are cited as being art of general interest: Mitchell et al. which disclose the controlling of an instrumentation system, Schleiss et al. which disclose a diagnostic expert in a process control system and Sojoodi et al. which disclose virtual instrumentation functions in a graphical data flow program.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D Wachsman whose telephone number is 703-305-9788. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 703-308-1677. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Hal D Wachsman
Primary Examiner
Art Unit 2857

HW
November 14, 2003